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T. Bell.
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Applicant: Robert G.B. Examiner: Nguyen, D.
Serial No: 09/747,123 Art Unit: 2836
File Date: December 22, 2000
Invention: HYBRID MOV/GAS TUBE AC SURGE PROTECTOR

LIGHTBODY LAW OFFICE
32600 Fairmount Blvd., #100
Pepper Pike, Ohio 44124
Phone (216) 621-7337
Fax (216) 621-7393

January 30, 2003

COMMISSIONER OF PATENTS
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D E C L A R A T I O N

Dear Commissioner:

My name is Richard Cohen.

I have a M.S. and a Ph. D. in Physics from CalTech.

I spent many years at Bell Laboratories in the U.S. doing solid state physics and materials science research.

I was the Manager of lightning protector development for AT&T.

In 1990, I went to Panamax as the Vice President of Engineering.

I am a Fellow of the American Physical Society and the American Association for the Advancement of Science, a Senior Member of the IEEE.

I am a member of the Industry Advisory Group that sets the Underwriters Laboratories Standards for surge protectors.

I am now Vice President of New Technology for Panamax, the Assignee of the present application.

Panamax is located and doing business at 150 Mitchell Blvd., San Rafael, California, 94903.

Panamax is a maker of surge and transient suppression devices for tele-communication and computers.

I have reviewed the invention described in the above identified application U.S. Serial 09/747,123 filed December 22, 2000 for a HYBRID MOV/GAS TUBE AC SURGE PROTECTOR.

I have also reviewed the August 31, 2002 office action issued on the invention including the Chaudhry (U.S. 6,188,557), Kapp (U.S. 5,412,526) and Stahl (U.S. 5,388,021) cited therein.

The invention described in the application U.S. Serial 09/747,123 related to a general field of protectors called "shunt" protectors.

In this type of "shunt" protector the main amperage to a connected electrical load does not pass through the protector. Only surge currents are shunted to ground through the protector.

The Chaudhry (U.S. 6,188,557) is a "series" type protector.

In this type of "series" protector the current for the load is fed through the surge protector.

This "series" connection requires components and wires be sized relative to normal loads for the full steady load current due to their need to function on these loads.

This "series" connection utilizes sizable components so that the protector is much larger and more expensive than it needs to be for the relatively brief surge currents.

For example, the protector described in the present application can use only #14 gauge wire for the connections, but can be used on 400A panels. A "series" protector for the same application would require a wire diameter of >0.5 inches.

A "shunt" protector can be located at a building's entrance with small components (at a cost on the order of \$50).

Further the "shunt" protector works very effectively due to the short wire length (2 meters) to the building ground (inductance 2.5 microhenries disclosed).

A "series" connection at this location would require massive components to manage its continual load (at a cost on the order of \$1,000. with massive cable connections).

In the "series" Chaudhry device the load is applied directly to the protector, necessitating big wires to carry an example 400 amp load.

I hereby declare that all statements made herein are of my own knowledge are true, and that all statements made on information and belief are believed to be true, and further that these statements were made with the knowledge that willful

false statements and the like so made are punishable by fines and/or imprisonment, or both, under Section 101 of Title 18 of the USC and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Jan 30, 2003

DATE

Richard L. Cohen

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